



PATENT  
Docket No.: 19226/2231 (R-5786)

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicants : Swartz et al.

Serial No. : 10/692,381

Cnfrm. No. : 8451

Filed : October 23, 2003

For : FIBRIN-BASED TISSUE-ENGINEERED  
VASCULATURE

Examiner:

Art Unit:  
1623

INFORMATION DISCLOSURE STATEMENT  
UNDER 37 CFR §§ 1.97-1.98

**Mail Stop:**

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P.O. Box 1450  
Alexandria, VA 22313-1450

Dear Sir:

Pursuant to 37 CFR §§ 1.97-1.98, applicants hereby bring to the attention of the United States Patent and Trademark Office, the enclosed references listed on the attached PTO-1449 form.

Respectfully submitted,

Date: March 11, 2004

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Registration No. 40,087

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<b>Substitute for form 1449B/PTO</b>  <b>INFORMATION DISCLOSURE STATEMENT BY APPLICANT</b>  (use as many sheets as necessary)			<b>Complete if Known</b>		
			Application Number	10/692,381	
			Filing Date	October 23, 2003	
			First Named Inventor	Swartz et al.	
			Group Art Unit	1623	
			Examiner Name		
Sheet	1	of	6	Attorney Docket Number	19226/2231 (R-5786)

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	15	Grassl, E. D., T. R. Oegema, et al. (2002). "Fibrin as an alternative biopolymer to type-I collagen for the fabrication of a media equivalent." <i>J Biomed Mater Res</i> 60(4):607-12	
	16	Hall, H., T. Baechi, J.A. Hubbell (2001). "Molecular properties of fibrin-based matrices for promotion of angiogenesis in vitro." <i>Microvascular Research</i> 62:315-326	
	17	Hoerstrup, S.P., A. Kadner, et al. (2002). "Living, autologous pulmonary artery conduits tissue engineered from human umbilical cord cells." <i>Ann Thorac Surg</i> 74:46-52	
	18	Hoerstrup, S. P., R. Sodian, et al. (2000). "Functional living trileaflet heart valves grown in vitro." <i>Circulation</i> 102(Suppl 3):III44-9	
	19	Hoerstrup, S. P., G. Zund, et al. (2002). "A new approach to completely autologous cardiovascular tissue in humans." <i>ASAIO Journal</i> 48(3):234-8	
	20	Hoerstrup, S. P., G. Zund, et al. (2001). "Tissue engineering of small caliber vascular grafts." <i>European Journal of Cardio-Thoracic Surgery</i> 20:164-9	
	21	Huynh, T., G. Abraham, et al. (1999). "Remodeling of an acellular collagen graft into a physiologically responsive neovessel." <i>Nature Biotechnology</i> 17(11):1083-6	
	22	Jockenhoevel, S., G. Zund, et al. (2001). "Fibrin gel -- advantages of a new scaffold in cardiovascular tissue engineering." <i>European Journal of Cardio-Thoracic Surgery</i> 19:424-30	

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	23	Jones, P. A. (1979). "Construction of an artificial blood vessel wall from cultured endothelial and smooth muscle cells." <i>Proceedings of the National Academy of Sciences of the United States of America</i> 76(4):1882-6	
	24	Kaushal, S., G. E. Amiel, et al. (2001). "Functional small-diameter neovessels created using endothelial progenitor cells expanded ex vivo." <i>Nature Medicine</i> 7(9):1035-40	
	25	Kent, K. C., A. Oshima, et al. (1988). "An in vitro model for human endothelial cell seeding of a small diameter vascular graft." <i>ASAIO Transactions</i> 34(3):578-80	
	26	Kodama, M., M. Naito, et al. (2002). "Role of D and E domains in the migration of vascular smooth muscle cells into fibrin gels." <i>Life Sciences</i> 71(10):1139-48	
	27	Kumar, T. R. and L. K. Krishnan (2001). "Endothelial cell growth factor (ECGF) enmeshed with fibrin matrix enhances proliferation of EC in vitro." <i>Biomaterials</i> 22(20):2769-76	
	28	Lee, J., K. C. Choi, et al. (1995). "Impairment of endothelium-dependent vasorelaxation in chronic two-kidney, one clip hypertensive rats." <i>Nephrology Dialysis Transplantation</i> 10(5):619-23	
	29	L'Heureux, N., L. Germain, et al. (1993). "In vitro construction of a human blood vessel from cultured vascular cells: A morphologic study." <i>Journal of Vascular Surgery</i> 17(3):499-509	
	30	L'Heureux, N., S. Paquet, et al. (1998). "A completely biological tissue-engineered human blood vessel." <i>FASEB Journal</i> 12(1):47-56	
	31	L'Heureux, N., J. C. Stoclet, et al. (2001). "A human tissue-engineered vascular media: A new model for pharmacological studies of contractile responses." <i>FASEB Journal</i> 15(2):515-24	
	32	Long, J.L., R.T. Tranquillo (2003). "Elastic fiber production in cardiovascular tissue-equivalents." <i>Matrix Biology</i> 22:339-350	
	33	Malone, J. M., K. Brendel, et al. (1984). "Detergent-extracted small-diameter vascular prostheses." <i>Journal of Vascular Surgery</i> 1(1):181-91	

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	34	Meredith, J. E., Jr., B. Fazeli, et al. (1993). "The extracellular matrix as a cell survival factor." <i>Molecular Biology of the Cell</i> 4(9):953-61	
	35	Naito, M. (2000). "Effects of fibrinogen, fibrin and their degradation products on the behaviour of vascular smooth muscle cells." <i>Japanese Journal of Geriatrics</i> 37(6):458-63	√
	36	Naito, M., C. M. Stirk, et al. (2000). "Smooth muscle cell outgrowth stimulated by fibrin degradation products: The potential role of fibrin fragment E in restenosis and atherogenesis." <i>Thrombosis Research</i> 98(2):165-74	
	37	Neidert, M. R., E. S. Lee, et al. (2002). "Enhanced fibrin remodeling in vitro with TGF-beta1, insulin and plasmin for improved tissue-equivalents." <i>Biomaterials</i> 23(17):3717-31	
	38	Niewiarowski, S., E. Regoeczi, et al. (1972). "Adhesion of fibroblasts to polymerizing fibrin and retraction of fibrin induced by fibroblasts." <i>Proceedings of the Society for Experimental Biology &amp; Medicine</i> 140(1):199-204	
	39	Niewiarowski, S., E. Regoeczi, et al. (1972). "Platelet interaction with fibrinogen and fibrin: Comparison of the interaction of platelets with that of fibroblasts, leukocytes, and erythrocytes." <i>Annals of the New York Academy of Sciences</i> 201:72-83	
	40	Niklason, L. E., W. Abbott, et al. (2001). "Morphologic and mechanical characteristics of engineered bovine arteries." <i>J Vasc Surg</i> 33(3):628-38	
	41	Niklason, L. E., J. Gao, et al. (1999). "Functional arteries grown in vitro." <i>Science</i> 284(5413):489-93	
	42	Pasic, M., W. Muller-Glauser, et al. (1995). "Seeding with omental cells prevents late neointimal hyperplasia in small-diameter Dacron grafts." <i>Circulation</i> 92(9):2605-16	
	43	Rosenquist, T. H. and L. Modis (1991). "Spatial disorder of collagens in the great vessels, associated with congenital heart defects." <i>Anatomical Record</i> 229(1):116-24	
	44	Ross, J.J., R.T. Tranquillo (2003). "ECM gene expression correlates with in vitro tissue growth and development in fibrin gel remodeled by neonatal smooth muscle cells." <i>Matrix Biology</i> 22:477-490	

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	45	Schrenk, P., G. S. Kobinia, et al. (1987). "Fibrin glue coating of e-PTFE prostheses enhances seeding of human endothelial cells." <i>Thoracic &amp; Cardiovascular Surgeon</i> 35(1):6-10	
	46	Seliktar, D., R. A. Black, et al. (2000). "Dynamic mechanical conditioning of collagen-gel blood vessel constructs induces remodeling in vitro." <i>Annals of Biomedical Engineering</i> 28(4):351-62	
	47	Seliktar, D., R.M. Nerem, et al. (2003). "Mechanical strain-stimulated remodeling of tissue-engineered blood vessel constructs." <i>Tissue Engineering</i> 9(4):657-666	
	48	Shainoff, J. R., G. B. Smejkal, et al. (2002). "Allosteric effects potentiating the release of the second fibrinopeptide A from fibrinogen by thrombin." <i>Journal of Biological Chemistry</i> 277(22):19367-73	
	49	Shin'oka, T., Y. Imai, et al. (2001). "Transplantation of a tissue-engineered pulmonary artery." <i>New England Journal of Medicine</i> 344(7):532-3	
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	51	Siebenlist, K. R., D. A. Meh, et al. (2001). "Protransglutaminase (factor XIII) mediated crosslinking of fibrinogen and fibrin." <i>Thrombosis &amp; Haemostasis</i> 86(5):1221-8	
	52	Stegemann, J. P. and R. M. Nerem (2003). "Altered response of vascular smooth muscle cells to exogenous biochemical stimulation in two- and three-dimensional culture." <i>Experimental Cell Research</i> 283(2):146-55	
	53	Szilagyi, D. E., J. P. Elliott, Jr., et al. (1986). "A thirty-year survey of the reconstructive surgical treatment of aortoiliac occlusive disease." <i>Journal of Vascular Surgery</i> 3(3):421-36	
	54	Thie, M., W. Schlumberger, et al. (1991). "Aortic smooth muscle cells in collagen lattice culture: Effects on ultrastructure, proliferation and collagen synthesis." <i>European Journal of Cell Biology</i> 55(2):295-304	
	55	Tranquillo, R. T. (1999). "Self-organization of tissue-equivalents: The nature and role of contact guidance." <i>Biochem Soc Symp</i> 65:27-42	

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	57	Voorhees, A. J. A., Blakemore AH. (1952). "The use of tubes constructed from Vinyon "N" cloth in bridging arterial defects." <i>Ann Surg</i> 135:332-336	
	58	Weinberg, C. B. and E. Bell (1986). "A blood vessel model constructed from collagen and cultured vascular cells." <i>Science</i> 231(4736):397-400	
	59	Williams, S. K., D. G. Rose, et al. (1994). "Microvascular endothelial cell sodding of ePTFE vascular grafts: Improved patency and stability of the cellular lining." <i>Journal of Biomedical Materials Research</i> 28(2):203-12	
	60	Wilson, G. J., D. W. Courtman, et al. (1995). "Acellular matrix: A biomaterials approach for coronary artery bypass and heart valve replacement." <i>Annals of Thoracic Surgery</i> 60(2 Suppl):S353-8	
	61	Ye, Q., G. Zund, et al. (2000). "Fibrin gel as a three dimensional matrix in cardiovascular tissue engineering." <i>European Journal of Cardio-Thoracic Surgery</i> 17(5):587-91	
	62	Niewiarowski, S. (1973). "Interaction of Fibrin with Various Cells," <i>Thromb Diath Haemorrh Suppl</i> 56:51-61 (1973)	
	63	Selikar, D., R.M. Nerem et al., (2001). "The Role of Matrix Metalloproteinase-2 in the remodeling of cell-seeded vascular constructs subjected to cyclin strain." <i>Annals of Biomedical Engineering</i> 29:923-934	
	64	Grassl, E.D., T.R. Degema et al., (2003). "A Fibrin-Based Arterial Media Equivalent." <i>J. Biomed Mat Res</i> 66A:550-61.	

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	13	Freischlag, J. A. and W. S. Moore (1990). "Clinical experience with a collagen-impregnated knitted Dacron vascular graft." <i>Annals of Vascular Surgery</i> 4(5):449-54	
	14	Girton, T. S., V. H. Barocas, et al. (2002). "Confined compression of a tissue-equivalent: Collagen fibril and cell alignment in response to anisotropic strain." <i>Journal of Biomechanical Engineering</i> 124(5):568-75	
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	56	Tuan, T. L., A. Song, et al. (1996). "In vitro fibroplasia: Matrix contraction, cell growth, and collagen production of fibroblasts cultured in fibrin gels." <i>Experimental Cell Research</i> 223(1):127-34	
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